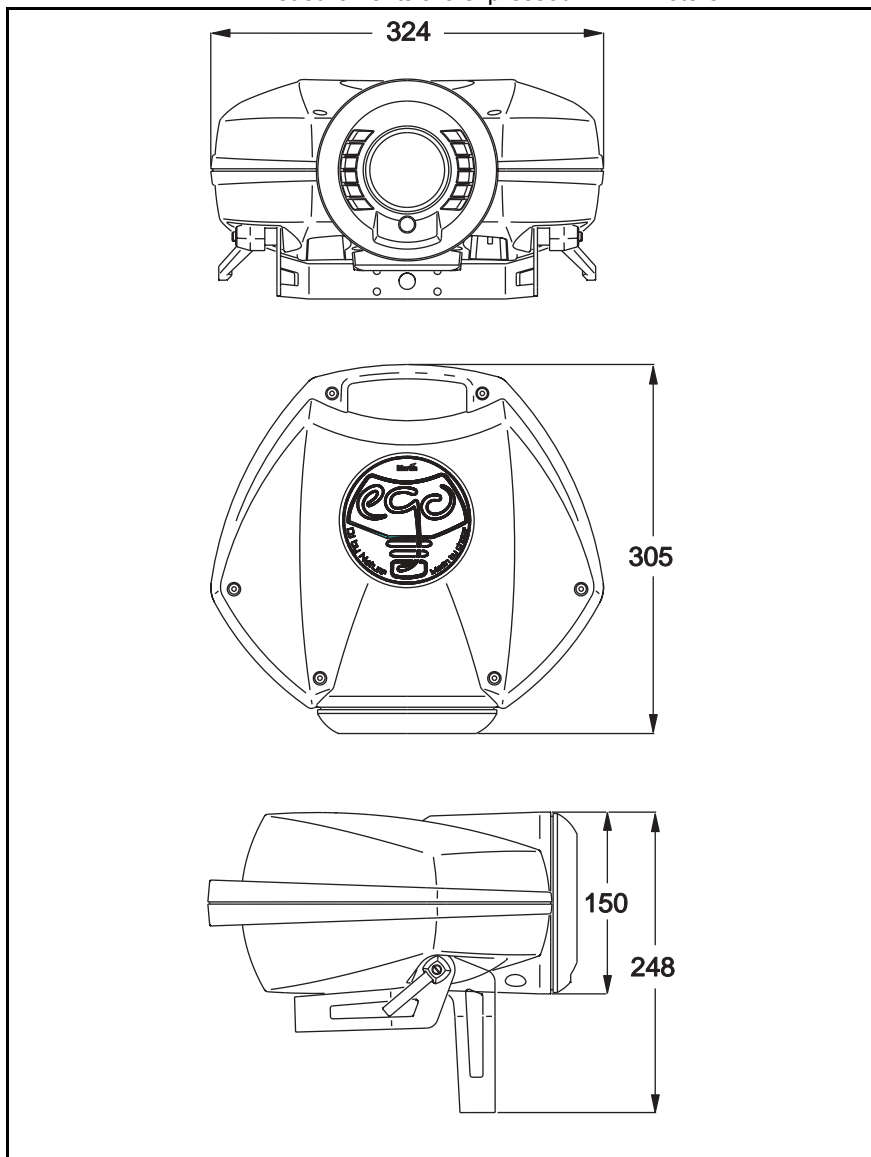


# Ego X4

user manual



Measurements are expressed in millimeters.



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# INTRODUCTION

Thank you for selecting a Martin Ego X4. The Ego series features 250 watt luminaires with sharp projection quality optics in a moulded composite casing. They incorporate a 250-watt halogen lamp and a precise focus adjustment that produces crisp projections.

The Ego X4 provides a range of gobos and colors on a single effect wheel and a rotating mirrored dish. It can be controlled using DMX, is able to operate in stand-alone mode, has a built-in sensor for music triggering, and has master/slave capabilities that enable it to operate in unison with other fixtures. In DMX mode, twelve factory-designed macros allow light shows to be created quickly with minimal programming

A convenient handle and lens protection ring make for easy transport and handling.

## SAFETY INFORMATION

---

***Warning! This product is not for household use. It presents risks of lethal or severe injury due to fire and heat, electric shock, and falls.***

Read this manual before powering or installing the fixture, follow the safety precautions listed below and observe all warnings in this manual and printed on the fixture. If you have questions about how to operate the fixture safely, please contact a Martin distributor for assistance. Refer any service operation not described in this manual to a qualified technician. Do not modify the fixture or install other than genuine Martin accessories and upgrade kits.

### Avoiding electric shocks

- Disconnect the fixture from AC power before removing or installing the lamp, fuses, or any part, and when not in use.
- Always ground (earth) the fixture electrically.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Do not expose the fixture to rain or moisture.
- Refer all service to a qualified technician.
- Never operate the fixture with missing or damaged lenses and/or covers.

## Protecting yourself and others from burns and fire

- Never attempt to bypass the thermostatic switch or fuses. Always replace defective fuses with ones of the specified type and rating.
- Ensure that the air flow through fans and vents is free and unobstructed.
- Keep all combustible materials (for example fabric, wood, paper) at least 0.1 meters (4 inches) away from the fixture. Keep flammable materials well away from the fixture.
- Do not illuminate surfaces within 0.3 meters (12 inches) of the fixture.
- Provide a minimum clearance of 0.1 meters (4 inches) around fans and air vents.
- Replace the lamp if it becomes defective or worn out, or when average service life is reached. When replacing the lamp, allow the fixture to cool for at least 15 minutes before opening the fixture or removing the lamp.
- Never place filters or other materials over the lens or mirror.
- The exterior of the fixture can become hot. Allow the fixture to cool for at least 5 minutes before handling.
- Do not operate the fixture if the ambient temperature ( $T_a$ ) exceeds 40° C (104° F).
- Do not stare directly into the light.
- Never operate the fixture without all lenses and covers installed: an unshielded lamp emits UV radiation that can cause burns and eye damage.

## Preventing injuries due to falls

- When suspending the fixture above ground level, verify that the structure can hold at least 10 times the weight of all installed devices.
- Verify that all external covers and rigging hardware are securely fastened
- Use an approved means of secondary attachment such as a safety cable.
- Block access below the work area when installing or removing the fixture.

## UNPACKING

---

The packing material is carefully designed to protect the fixture during shipment – always use it to transport the fixture.

The Ego X4 is supplied with the following:

- User manual
- 3-meter (10 ft) IEC power cord with Shuko (Euro) mains connector
- 3-meter IEC power cable with US mains connector
- 3-meter IEC power cable without mains connector
- 24 V / 250 W, long-life lamp (installed)

# AC POWER

The Ego X4 has an auto-ranging power supply that can operate in the following voltage ranges at 50-60 Hz:

- 90-130 volts
- 200-250 volts


## INSTALLING A PLUG ON THE MAINS LEAD

The fixture's mains lead may require a grounding-type cord cap that fits your power distribution cable or outlet. Consult a qualified electrician if you have any doubts about proper installation.

**Warning!** *For protection from dangerous electric shock, the fixture must be grounded (earthed). The AC mains supply shall have overload and ground-fault protection.*

**Important!** *Verify that the feed cables are undamaged and rated for the current requirements of all connected devices before use.*

Following the cord cap manufacturer's instructions, connect the yellow and green wire to ground (earth), the brown wire to live, and the blue wire to neutral. The table below shows some pin identification schemes.

Wire	Pin	Marking	Screw color
brown	live	"L"	yellow or brass
blue	neutral	"N"	silver
yellow/green	ground		green

# INSTALLATION

The Ego X4 can be hung overhead with a clamp (not included), mounted vertically on a wall, or placed on the floor.

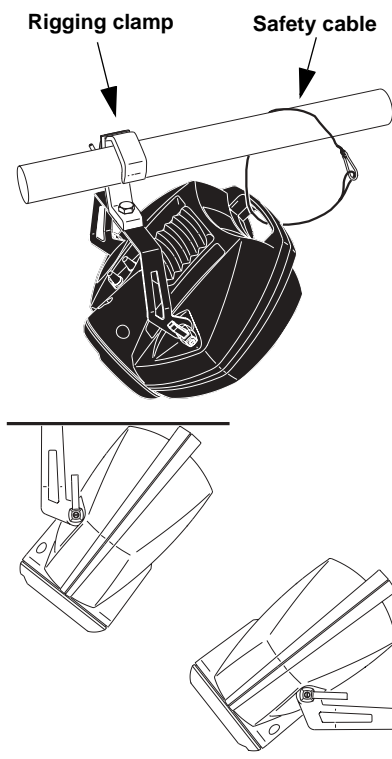
**Warning!** *Block access below the work area before proceeding. Always use a secure means of secondary attachment.*

## OVERHEAD MOUNTING

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To hang the Ego X4 on an overhead support, ceiling, or wall:

- 1 Verify that the structure can support at least 10 times the weight of all installed fixtures, clamps, cables, auxiliary equipment, and other items.
- 2 If hanging the fixture with a rigging clamp, verify that the clamp is undamaged and is designed for the fixture's weight. Bolt the clamp securely to the mounting bracket on the fixture with a grade 8.8 (minimum) M12 bolt and lock nut, or as recommended by the clamp manufacturer, through the clamp hole in the mounting bracket.
- 3 If permanently installing the fixture, verify that the hardware (not included) and mounting surface can bear at least 10 times the fixture's weight.
- 4 Working from a stable platform, clamp or fasten the fixture to the structure.
- 5 Install a safety cable that can hold at least 10 times the weight of the fixture through the handle of the of the fixture.
- 6 Loosen the swivel locks, tilt the fixture to the desired angle, and retighten.





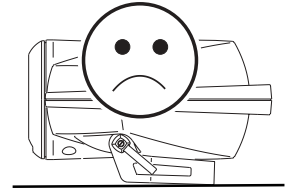
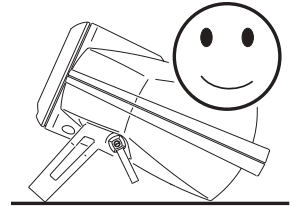
- 7 Verify that the fixture is at least 0.3 meters (12 in.) from the surface to be illuminated and at least 0.1 meters (4 in.) from any combustible materials. Verify that the clearance around the air vents is at least 0.1 meters (4 in.).

## OPERATION FROM THE FLOOR

---

To operate the Ego X4 from the floor:

- 1 Set the fixture on the floor so that the mounting bracket is under the fixture. Adjust the mounting bracket and tighten both swivel locks. Note that the fixture may not be placed so that the clearance around the air vent is impaired.
- 2 Verify that the fixture is stable, that it is at least 0.3 meters (12 in.) from the surface to be illuminated and at least 0.1 meters (4 in.) from any combustible materials. Verify that the clearance around the air vents is at least 0.1 meters (4 in.).



Do not operate the fixture while it lies flat without the mounting bracket extended as this reduces the air flow to the fan; the fixture may overheat and then the thermal protection switch will temporarily cut the power.

# DATA CONNECTION

This section describes how to connect fixtures to each other, or to a controller.

## RECOMMENDED CABLE

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A reliable data connection begins with the right cable. Standard microphone cable cannot transmit DMX data reliably over long runs. For best results, use cable specifically designed for RS-485 applications. Your Martin dealer can supply high quality cable in various lengths.

## CONNECTIONS

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The Ego X4's XLR data sockets are wired with pin 1 to ground, pin 2 to signal - (cold), and pin 3 to signal + (hot). This is compatible with the standard for DMX devices.

One or more adaptor cables may be required to connect the Ego X4 to the controller and/or other lights because many devices have 5-pin connectors and others may have reversed signal polarity, that is, pin 2 hot and pin 3 cold.

5-pin to 3-pin Adaptor	
Male	Female
1	1
2	2
3	3
4	
5	
P/N 11820005	

3-pin to 5-pin Adaptor	
Male	Female
1	1
2	2
3	3
	4
	5
P/N 11820004	

3-pin to 3-pin Phase-Reversing Adaptor	
Male	Female
1	1
2	3
3	2
P/N 11820006	

# Connecting the data link

- 1 Connect a data cable to the controller's output. If controller has a 5-pin output, use a 5-pin male to 3-pin female adaptor (P/N 11820005).
- 2 Lead the data cable from the controller to the first fixture. Plug the cable into the fixture's data input.
- 3 Connect the output of the fixture closest to the controller to the input of the next fixture. If connecting two fixtures with opposing polarity on pins 2 and 3, insert a phase-reversing cable between the two fixtures.
- 4 Continue connecting fixtures output to input. Up to 32 devices may be connected on a serial link.
- 5 Terminate the link by inserting a male termination plug (P/N 91613017) into the data output of the last fixture. A termination plug is simply an XLR connector with a 120 Ohm, 0.25 W resistor soldered across pins 2 and 3.

Male Termination Plug	Female Termination Plug
Male XLR  1 2 ~ 120 Ohm 3 ~	Female XLR  1 2 ~ 120 Ohm 3 ~
P/N 91613017	P/N 91613018

# GENERAL OVERVIEW

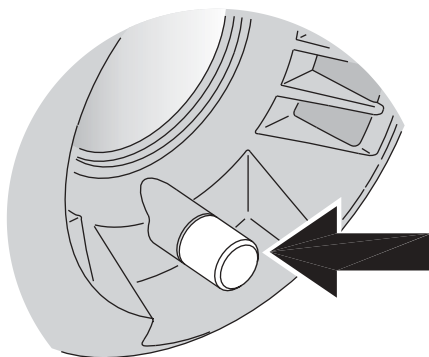
The lamp turns on as soon as power is applied.

To achieve optimal results, the use of smoke effects together with your Ego X4 is recommended.

## FOCUSING THE EGO X4

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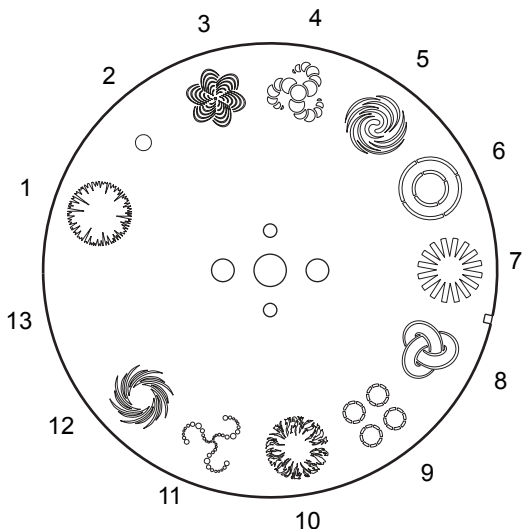
Adjust the focus using the thumb screw next to the lens.



Note that this thumb screw is for focus adjustment only. For access to the lens and other optical components, see “*Cleaning optical components*” on page 20.

## COLOR/GOBO WHEEL

The Ego X4 contains an effect wheel with 12 gobo/color combination positions, and a closed position.



Position	Gobo	Color
1	Burst	Open (white)
2	Dot	Light green 204
3	Sound wave	Magenta 507
4	Jester	Blue 111/Primary green 206 M/Magenta 507
5	Whirlpool	Blue 101
6	Target	Blue 106
7	Nippon	Flame red 304
8	Mobius	Yellow 603
9	Fab-4	Light green 204/Orange 306/Magenta 507/Cyan 104
10	Solar flare	Orange 306
11	DNA	Cyan 104/Magenta 507/Amber 604
12	Galaxy	Green 202
13	Closed	Closed (black/no color)

When operating the fixture under DMX control:

- Individual positions on the wheel can be selected.

- The wheel can be rotated continuously clockwise, or counter-clockwise at variable speeds.
- A “shake” function is available
- Music chase and dynamic effects triggered by signals from the built-in sensor are available.

When operating in stand-alone operation effect selection is performed randomly in response to auto trigger (default programmed) or music trigger signals.

## **MIRRORED DISH**

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The Ego X4 contains a rotating parabolic reflector with multiple mirrors.

When operating the fixture under DMX control:

- The reflector can be rotated continuously clockwise, or counter-clockwise at variable speeds.
- Music chase and dynamic effects triggered by signals from the built-in sensor are available.

# STAND-ALONE OPERATION

The Ego X4 may be operated without a controller in stand-alone mode. It can be operated as a single unit or together with other Ego X4s in a “master/slave” configuration.

Several options are available to modify stand-alone operation. These options are selected using the DIP-switch and are described in this chapter.

**Important!** *The Ego X4 transmits a signal when DIP-switch pins 1 or 2 and 10 are set to ON. To avoid damage to the electronics, connect no more than 1 transmitting device (master or controller) to the data link.*

## STAND-ALONE SETTINGS

DIP-switch pins 1, 2, 4, 5, 6 and 8 enable stand-alone options only when pin 10 is ON. When pin 10 is off, the DIP-switch selects a DMX address. Pin 11 must be OFF for stand-alone operation.

Fixture	Option	Setting (0 = OFF, 1 = ON)										
		1	2	3	4	5	6	7	8	9	10	11
Single or master	Auto trigger (will use default trigger time)	0	1								1	0
	Music trigger (synchronized with music)	1	0									
Master only	Slow movement				1							
Slave	Use a random color/gobo						1					
	Select color/gobo wheel movement inverse to that of the Master fixture							1				
Demo program		0	0			1						

Note that if the slow movement option is not set, movement is fast by default.

**Warning!** *Do not use DIP-switch pin 3 in stand-alone mode. When pin 3 and 10 are both set to ON, the fixture enters effect-wheel adjustment mode.*

## Demo program

If DIP-switch pins 5 and 10 are both set to ON, the fixture runs a factory-set program that demonstrates all its effects.

## MASTER / SLAVE OPERATION

---

Multiple Ego X4s can be connected together, without a controller, for synchronized “master/slave” operation in which the slaves mimic, or respond to, the behavior of the master.

### Connecting units for master / slave operation

- 1 Connect the output of one Ego X4 to the input of the next Ego X4.
- 2 Connect additional Ego X4s output to input. Up to 32 may be connected.
- 3 Terminate the link on both ends by inserting a *female* termination plug into the data *input* of the first fixture and a *male* termination plug into the data *output* of the last fixture. (The female terminator may not be required if the first fixture is the master.) A termination plug is simply an XLR connector with a 120 ohm, 0.25 W resistor soldered across pins 2 and 3.

### Setting the master

**Important!** *Set only 1 fixture as master (DIP-switch pins 1 or 2 and 10 ON).*

- 1 Set DIP-switch pins 10 to ON.
- 2 Set DIP-switch pins 3, 5, 6, 7, 8, 9, and 11 to OFF.
- 3 Select trigger options with DIP-switch pins 1 or 2 and effect speed with pin 4 (see “*Stand-alone settings*” on page 15).

### Setting a slave

- 1 Set pins 1, 2, 3, 4, 5, 7, 9 and 11 to OFF.
- 2 Select options with DIP-switch pins 6 and 8 (see “*Stand-alone settings*” on page 15). If you use these options then you must also set DIP-switch 10 to ON. If none of these options are set then the slave fixture will mimic the master exactly. Use these options if you want a slave fixture to behave differently, for example, to make a show more interesting.



# DMX OPERATION

The Ego X4 can be connected to and operated from a DMX controller.

## DMX CONTROL ADDRESS

---

The control address, also known as the start channel, is the first channel used to receive instructions from the controller. Each fixture needs its own control address set, and uses this address and subsequent control channels to receive instructions from a controller. The Ego X4 uses six control channels.

The Ego X4 reads the data on the start channel and the next five channels. If the DMX control address is set to 100, the fixture uses channels 100, 101, 102, 103, 104 and 105. Channel 106 is available for use as control address for the next fixture.

For independent control, each fixture must be assigned its own address and non-overlapping control channels. If two or more fixtures are set up with the same address, they will receive the same instructions and should behave identically. Setting up identical fixtures with the same address is a good tool for troubleshooting unexpected behavior and an easy way to achieve synchronized action.

## Specifying a DMX address

DIP-switch pins 1-9 are used to set the control address:

- 1 Select an address for the fixture on your controller. If you are calculating the DMX addresses for multiple fixtures then the Martin Address Calculator is available on the internet at <http://www.martin.dk/service/utilities/AddrCalc/index.asp>
- 2 Look up the DIP-switch setting using the Martin DIP Switch Calculator (also available on the internet, at <http://www.martin.dk/service/dipswitchpopup.htm>), or look for the address in the following DIP-switch settings table.
- 3 Disconnect the fixture from power.
- 4 Set pins 1 through 9 to the ON (1) or OFF (0) position as listed in the table.

Find the address in the following table. Read the settings for pins 1 - 5 to the left and read the settings for pins 6 - 9 above the address. "0" means OFF and "1" means ON. Pin 10 is always OFF for DMX operation.

DIP-Switch Setting					#9	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
0 = OFF 1 = ON					#8	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
					#7	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
					#6	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
#1	#2	#3	#4	#5																	
0	0	0	0	0		32	64	96	128	160	192	224	256	288	320	352	384	416	448	480	
1	0	0	0	0		1	33	65	97	129	161	193	225	257	289	321	353	385	417	449	481
0	1	0	0	0		2	34	66	98	130	162	194	226	258	290	322	354	386	418	450	482
1	1	0	0	0		3	35	67	99	131	163	195	227	259	291	323	355	387	419	451	483
0	0	1	0	0		4	36	68	100	132	164	196	228	260	292	324	356	388	420	452	484
1	0	1	0	0		5	37	69	101	133	165	197	229	261	293	325	357	389	421	453	485
0	1	1	0	0		6	38	70	102	134	166	198	230	262	294	326	358	390	422	454	486
1	1	1	0	0		7	39	71	103	135	167	199	231	263	295	327	359	391	423	455	487
0	0	0	1	0		8	40	72	104	136	168	200	232	264	296	328	360	392	424	456	488
1	0	0	1	0		9	41	73	105	137	169	201	233	265	297	329	361	393	425	457	489
0	1	0	1	0		10	42	74	106	138	170	202	234	266	298	330	362	394	426	458	490
1	1	0	1	0		11	43	75	107	139	171	203	235	267	299	331	363	395	427	459	491
0	0	1	1	0		12	44	76	108	140	172	204	236	268	300	332	364	396	428	460	492
1	0	1	1	0		13	45	77	109	141	173	205	237	269	301	333	365	397	429	461	493
0	1	1	1	0		14	46	78	110	142	174	206	238	270	302	334	366	398	430	462	494
1	1	1	1	0		15	47	79	111	143	175	207	239	271	303	335	367	399	431	463	495
0	0	0	0	1		16	48	80	112	144	176	208	240	272	304	336	368	400	432	464	496
1	0	0	0	1		17	49	81	113	145	177	209	241	273	305	337	369	401	433	465	497
0	1	0	0	1		18	50	82	114	146	178	210	242	274	306	338	370	402	434	466	498
1	1	0	0	1		19	51	83	115	147	179	211	243	275	307	339	371	403	435	467	499
0	0	1	0	1		20	52	84	116	148	180	212	244	276	308	340	372	404	436	468	500
1	0	1	0	1		21	53	85	117	149	181	213	245	277	309	341	373	405	437	469	501
0	1	1	0	1		22	54	86	118	150	182	214	246	278	310	342	374	406	438	470	502
1	1	1	0	1		23	55	87	119	151	183	215	247	279	311	343	375	407	439	471	503
0	0	0	1	1		24	56	88	120	152	184	216	248	280	312	344	376	408	440	472	504
1	0	0	1	1		25	57	89	121	153	185	217	249	281	313	345	377	409	441	473	505
0	1	0	1	1		26	58	90	122	154	186	218	250	282	314	346	378	410	442	474	506
1	1	0	1	1		27	59	91	123	155	187	219	251	283	315	347	379	411	443	475	507
0	0	1	1	1		28	60	92	124	156	188	220	252	284	316	348	380	412	444	476	508
1	0	1	1	1		29	61	93	125	157	189	221	253	285	317	349	381	413	445	477	509
0	1	1	1	1		30	62	94	126	158	190	222	254	286	318	350	382	414	446	478	510
1	1	1	1	1		31	63	95	127	159	191	223	255	287	319	351	383	415	447	479	511

## DMX OPERATION

For detailed information refer to "Ego X4 specifications" on page 28.

**Channel 1** controls the strobe, stand-alone auto-triggering and reset. If stand-alone auto-triggering is selected on this channel, intensity will be

automatically set to 100% and all other channels will be disabled until stand-alone is deselected on channel 1.

**Channel 2** controls the intensity. When the intensity is set to zero, the cooling fan will slow down significantly to reduce power consumption, prolong the life of the product, reduce noise and minimize cleaning. This channel is disabled during stand-alone auto-triggering operation.

**Channel 3** controls the gobo/color wheel and is used to select effects and control rotation of the effect wheel. This channel is disabled during stand-alone auto-triggering operation.

Music triggering of the color wheel can be selected on this channel in a range of forms.

**Channel 4** controls the effect shake function. This channel is disabled during stand-alone auto-triggering operation.

**Channel 5** controls the parabolic reflector's rotation direction and speed. This channel is disabled during stand-alone auto-triggering operation.

Music triggering of the parabolic reflector can be selected on this channel in a range of forms.

**Channel 6** allows one of 12 factory-set macros to be selected. The macros are mini-programs that use all the fixture's effects. Select a macro if you want fast access to impressive light effects with minimal programming.

# BASIC SERVICE

## CLEANING

---

Regular cleaning of the elements in the optical path, as well as the fans and air vents, is vital to maintaining the operational quality of the Ego X4.

***Important! Excessive dust, smoke fluid, and particulate buildup degrades performance and causes overheating and damage to the fixture that is not covered by the warranty.***

### Cleaning the fan and air vents

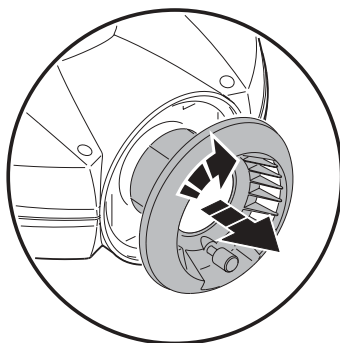
To maintain adequate cooling, dust must be cleaned from the fan and air vents periodically. Remove dust from the fan and air vents with a soft brush, cotton swab, vacuum, or compressed air.

### Cleaning optical components

Clean the optical components regularly. The presence of smudges or dust on optical surfaces can reduce the strength of the light output and the quality of the effects.

Use care when cleaning optical components and work in a clean, well lit area. The coated surfaces are fragile and easily scratched. Do not use solvents that can damage plastic or painted surfaces.

- 1 Disconnect the fixture from power and allow the components to cool completely.
- 2 Remove the front lens for cleaning by grasping the lens collar, twisting it clockwise, and sliding the lens out of the fixture.
- 3 Remove the fixture cover if you need to access the internal optical components. You may want to remove the lamp for cleaning (see the related steps in “Installing a lamp in the Ego X4” on page 21).



- 4 Vacuum or gently blow away dust and loose particles with compressed air.
- 5 Remove stuck particles with an unscented tissue or cotton swab moistened with glass cleaner or distilled water. Do not rub the surface: lift the particles off with a soft repeated press.
- 6 Remove smoke and other residues with cotton swabs or unscented tissues moistened with isopropyl alcohol. A commercial glass cleaner may be used, but residues must be removed with distilled water. Clean with a slow circular motion from center to edge. Dry with a clean, soft and lint-free cloth or compressed air.
- 7 Replace the lens and fixture cover and tighten the access screws, taking care not to trap any loose wires.

## LAMP MAINTENANCE

---

**Warning!** *Always disconnect the fixture from AC power and allow it to cool for 5 minutes before installing the lamp.*

The following lamp types are supported:

- Philips ELC/10H, 24 V / 250 W, 1000 hour halogen lamp
- Philips ELC/5H, 24 V / 250 W, 500 hour halogen lamp
- Osram ELC-7/X, 24 V / 250 W, 700 hour halogen lamp
- Philips ELC/8H, 24 V / 250 W, 800 hour halogen lamp
- Osram ELC, 24 V / 250 W, 50 hour halogen lamp

**Important!** *Installing any other lamp may damage the fixture.*

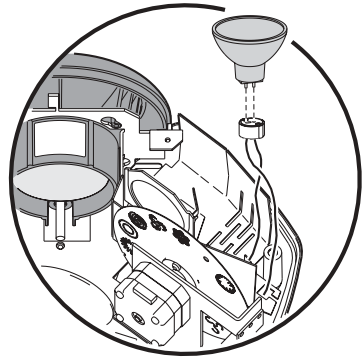
Allow the lamp to cool for at least 5 minutes before packing and moving the fixture. To avoid possible damage, remove the lamp when shipping the fixture.

As a general rule of thumb, the halogen lamps that have the shortest life span provide the greatest intensity.

### Installing a lamp in the Ego X4

- 1 Disconnect the fixture from AC power. If replacing a lamp, allow it to cool for at least 5 minutes before removing the lamp-access cover. The lamp cools faster with the cover in place. It can take up to 15 minutes for the fixture to cool completely.
- 2 Remove the six access screws from the cover and lift it off.

- 3 If replacing a lamp, grasp the old lamp by the reflector and pull it out of the holder. Then pull the socket off the lamp. Do not pull the wires.
- 4 Push the socket fully onto the pins of the new lamp.
- 5 Clean the glass bulb with the cloth supplied with the lamp, particularly if your fingers touched the glass. A clean, lint-free cloth wetted with alcohol may also be used.
- 6 Gently push the lamp into the holder until it snaps into place.
- 7 Replace the fixture cover and tighten the access screws, taking care not to trap any loose wires.



## FUSES

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The Ego X4 uses a time-delay fuse for protection against current overload. An indication that the fuse may have blown is that when power is applied the lamp does not light and the fan does not operate.

If the fuse blows repeatedly, there is a fault with the unit that requires service by a Martin technician.

Never bypass the fuse or replace it with one of another size or rating.

## Replacing the main fuse

- 1 Unplug the mains cable from the power input socket. The fuse holder is integrated into the power input socket.
- 2 Using a flathead screwdriver, lift the cover off the fuse holder and replace the fuse.
- 3 Replace the fuse holder cover and reconnect power.

## FIRMWARE UPDATES

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The factory installed firmware version is indicated on the serial number label.

The latest firmware is available from the support area of the Martin web site at <http://www.martin.com>. It can be installed using an MP-2, or via a PC serial data link using a hardware interface supported by the Software

Uploader shareware (also available from the Martin web site). The following devices are currently supported (in Version 5.5):

- DABS 1 (presently available with the MUM software package)
- ShowDesigner PCI DMX Interface Card (2048 channel version)
- LightJockey PCI DMX Interface Card (512 and 2048 channel versions)
- LightJockey PCMCIA DMX Interface
- LightJockey 4064 ISA DMX Interface Card (DJ and Club versions)

Note: Intermediate control systems such as the Martin Lighting Director (MLD) and the Martin Matrix must be bypassed when updating fixture software via the DMX link. These systems do not relay the update code correctly because it is not a DMX-compliant signal.

## Normal update

To update fixture software, connect an upload device to the fixture just like a DMX controller and perform a DMX mode upload as described in the uploader's documentation.

When the upload is completed (and when booting up) the fixture performs a check-sum test of the memory and then resets.

In the unlikely event that a software upload is interrupted, the fixture must be powered off for at least 10 seconds to force a check-sum test. You can then repeat the DMX-mode upload. If an error occurs and the fixtures do not reset, data was interrupted or corrupted during transmission. Perform a boot mode upload as described below.

## Boot mode upload

If the normal upload procedure does not work, or if the software update notes call for a boot mode update.

Perform a boot mode upload as described in the manual of the uploader that you are using.

# TROUBLESHOOTING

problem	probable cause(s)	suggested remedy
No light	No power to the fixture	Check connections
	Blown fuse	If fan does not function either then check and replace fuse if necessary.
	Burned out lamp	Install new lamp
	Fixture too hot	Allow to cool Improve air flow around fixture
No action	Sound too low to activate control circuit	Increase volume Move speakers closer
	Electrical malfunction	Refer to service technician
	Software checksum error	Update the firmware. See <i>"Firmware updates"</i> on page 22.
Fuse blows repeatedly	Electrical malfunction	Refer to service technician
Fixture resets correctly but does not respond to controller.	The DMX signal is not transmitted.	Connect controller. Inspect connections and cables. Correct poor connections. Repair or replace damaged cables.
	The DMX data signal is reversed.	Insert a phase-reversing cable in the link before the fixture.
	Incorrect address or other DIP-switch setting.	Check DIP-switch settings.
Intermittent flicker or strange behavior.	Data link not terminated.	Insert termination plug in output of the last fixture on the link.
	One of the fixtures is transmitting as a master or is defective.	Bypass one fixture at a time until normal operation is regained: unplug both connectors and connect them directly together. Have the defective fixture serviced by a qualified technician.
Effect fails to reset correctly.	The effect requires mechanical adjustment.	Contact Martin technician for service.

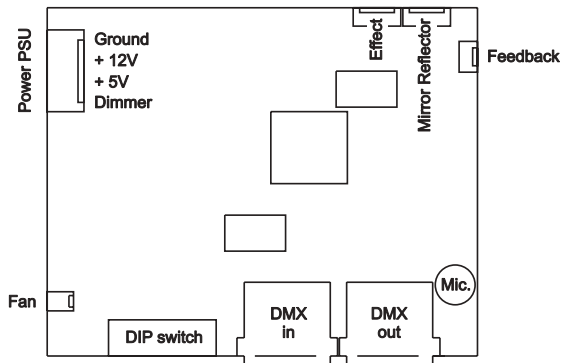


# DMX PROTOCOL

Channel	Value	Percent	Function
1	0-4	0-1	<b>Strobe, Music trig, Reset</b> No function
	5-68	2-26	Strobe, fast slow
	69-100	27-39	Remote stand-alone with auto trigger (disables other channels)
	101-249	40-97	Reserved
	250-255	98-100	Reset fixture, time > 3 seconds
2	0-255	0-100	<b>Intensity</b> 0-100%
3			<b>Color / Gobo Wheel</b> <b>Continuous Scroll: full color positions:</b>
	0-9	0-3	Position 1 - Burst - no color
	10-19	4-7	Position 2 - Dot - Light green 204
	20-29	8-11	Position 3 - Sound wave - Magenta 507
	30-39	12-15	Position 4 - Jester - Blue/Primary green/ Magenta
	40-49	16-19	Position 5 - Whirlpool - Blue 101
	50-59	20-23	Position 6 - Target - Blue 106
	60-69	24-26	Position 7 - Nippon - Flame red 304
	70-79	27-30	Position 8 - Mobius - Yellow 603
	80-89	31-35	Position 9 - Fab-4 - Green/Orange/Magenta/Cyan
	90-99	36-38	Position 10 - Solar flare - Orange
	100-109	39-42	Position 11 - DNA - Cyan/Magenta/Amber
	110-119	43-46	Position 12 - Galaxy - Green 202
	120-129	47-50	Position 13 - Closed
	130-175	51-68	Reserved
			<b>Continuous Rotation</b>
	176-207	69-81	CW (Fast to slow)
	208-239	82-93	CCW (Slow to fast)
			<b>Stand-alone music trigger</b>
	240-244	94-95	Music Chase - Fast
	245-249	96-97	Music Chase - Slow - (5 values)
	250-255	98-100	Music Chase - Dynamic (5 values)
4			<b>Color Shake</b>
	0-1	0	No function
	2-128	1-50	Narrow Shake (Slow-fast)
	129-255	51-100	Wide Shake (Slow-fast)

Channel	Value	Percent	Function
5	<b>Parabolic reflector</b>		
	0-1	0	Stop
	2-65	1-25	CCW rotation (Fast to slow)
	66-129	26-50	CW rotation (Slow to fast)
	130-192	51-75	Shake (different shakes)
	193-208	76-81	Random Shake
	209-239	82-93	Reserved
	240-244	94-95	Reserved (Music chase - fast)
	245-249	96-98	Reserved (Music chase - slow)
	250-255	99-100	Music chase - dynamic
6	<b>Macros</b>		
	0-15	0-5	No macro
	16-31	6-11	Macro 1
	32-47	12-18	Macro 2
	48-63	19-24	Macro 3
	64-79	25-30	Macro 4
	80-95	31-37	Macro 5
	96-111	38-43	Macro 6
	112-127	44-49	Macro 7
	128-143	50-55	Macro 8
	144-159	56-62	Macro 9
	160-175	63-68	Macro 10
	176-191	69-74	Macro 11
	192-207	75-81	Macro 12
	208-255	82-100	Reserved. No function

# PCB LAYOUT



# Ego X4 SPECIFICATIONS

## PHYSICAL

Size without standard bracket (L x W x H) 305 x 324 x 150 mm (12 x 12.8 x 5.9 in)  
Weight..... 3.8 kg (8.4 lb)

## CONSTRUCTION

Housing..... composite plastic  
Finish..... black

## THERMAL

Maximum ambient temperature (T<sub>a</sub>) ..... 40° C (104° F)

## INSTALLATION

Minimum distance to combustible materials ..... 0.1 m (4 in)  
Minimum distance to illuminated surfaces..... 0.3 m (12 in)  
Minimum clearance around fan and air vents ..... 0.1 m (4 in)

## DYNAMIC EFFECTS

Motorized gobo/color wheel ..... 12 color/gobo positions plus closed  
Motorized mirrored dish ..... clockwise or counter-clockwise rotation

## CONTROL AND PROGRAMMING

Data I/O sockets ..... 3-pin XLR male/female, pin 1=shield, pin 2 (-), pin 3 (+)  
Control protocol..... USITT DMX-512 (1990)  
Electrical standard..... RS-485  
DMX channels..... 6  
Stand-alone triggers ..... music or auto  
Control method ..... DMX controller, stand-alone, master/slave

## ELECTRICAL

Input ..... 3-prong IEC male socket  
AC Power ..... auto-ranging 90-130 V / 200-250 V, 50-60 Hz

## TYPICAL POWER AND CURRENT

100 V, 50 Hz	228 W, 2.3 A
100 V, 60 Hz	228 W, 2.3 A
120 V, 50 Hz	245 W, 2 A
120 V, 60 Hz	247 W, 2.1 A
208 V, 50 Hz	218 W, 1.1 A
208 V, 60 Hz	219 W, 1.1 A
230 V, 50 Hz	228 W, 1 A
230 V, 60 Hz	228 W, 1 A
250 V, 50 Hz	235 W, 1 A
250 V, 60 Hz	233 W, 1 A

## INCLUDED ITEMS

User manual

3-meter (10 ft) IEC power cord with Shuko (Euro) mains connector

3-meter IEC power cable with US mains connector

3-meter IEC power cable without mains connector

24 V / 250 W, long-life lamp (installed)

## ACCESSORIES

Philips ELC/10H, 24 V / 250 W, 1000 hour halogen lamp	P/N 97000109
Osram ELC-7/X, 24 V / 250 W, 700 hour halogen lamp	P/N 97000108
Philips ELC/5H, 24 V / 250 W, 500 hour halogen lamp	P/N 97000107
Osram ELC, 24 V / 250 W, 50 hour halogen lamp	P/N 97000104
Half-coupler clamp	P/N 91602005
Mains fuse (3.15 AT)	P/N 05020013
5-pin male to 3-pin female adaptor	P/N 11820005
XLR termination plug	P/N 91613017

## ORDERING INFORMATION

Ego X4	P/N 90428400
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